Christie Vive Audio LS3S Speaker

User Manual

020-101269-01

CHRISTIE®

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WARRANTY

Products are warranted under Christie's standard limited warranty, the complete details of which are available by contacting your Christie dealer or Christie. In addition to the other limitations that may be specified in Christie's standard limited warranty and, to the extent relevant or applicable to your product, the warranty does not cover:

a. Problems or damage occurring during shipment, in either direction.
b. Projector lamps (See Christie's separate lamp program policy).
c. Problems or damage caused by use of a projector lamp beyond the recommended lamp life, or use of a lamp other than a Christie lamp supplied by Christie or an authorized distributor of Christie lamps.
d. Problems or damage caused by combination of a product with non-Christie equipment, such as distribution systems, cameras, DVD players, etc., or use of a product with any non-Christie interface device.
e. Problems or damage caused by the use of any lamp, replacement part or component purchased or obtained from an unauthorized distributor of Christie lamps, replacement parts or components including, without limitation, any distributor offering Christie lamps, replacement parts or components through the internet (confirmation of authorized distributors may be obtained from Christie).
f. Problems or damage caused by misuse, improper power source, accident, fire, flood, lightening, earthquake or other natural disaster.
g. Problems or damage caused by improper installation/alignment, or by equipment modification, if by other than Christie service personnel or a Christie authorized repair service provider.
h. Problems or damage caused by use of a product on a motion platform or other movable device where such product has not been designed, modified or approved by Christie for such use.
i. Problems or damage caused by use of a projector in the presence of an oil-based fog machine or laser-based lighting that is unrelated to the projector.
j. For LCD projectors, the warranty period specified in the warranty applies only where the LCD projector is in "normal use" which means the LCD projector is not used more than 8 hours a day, 5 days a week.
k. Except where the product is designed for outdoor use, problems or damage caused by use of the product outdoors unless such product is protected from precipitation or other adverse weather or environmental conditions and the ambient temperature is within the recommended ambient temperature set forth in the specifications for such product.
l. Image retention on LCD flat panels.
m. Defects caused by normal wear and tear or otherwise due to normal aging of a product.

The warranty does not apply to any product where the serial number has been removed or obliterated. The warranty also does not apply to any product sold by a reseller to an end user outside of the country where the reseller is located unless (i) Christie has an office in the country where the end user is located or (ii) the required international warranty fee has been paid.

The warranty does not obligate Christie to provide any on site warranty service at the product site location.

PREVENTATIVE MAINTENANCE

Preventative maintenance is an important part of the continued and proper operation of your product. Please see the Maintenance section for specific maintenance items as they relate to your product. Failure to perform maintenance as required, and in accordance with the maintenance schedule specified by Christie, will void the warranty.

Environmental

The product is designed and manufactured with high-quality materials and components that can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from regular waste. Please dispose of the product appropriately and according to local regulations. In the European Union, there are separate collection systems for used electrical and electronic products. Please help us to conserve the environment we live in!

Addendum

Translated copies of this document are provided on the CD in the back of this document. The CD may also contain additional product documentation. Read all instructions before using or servicing this product.

本文档的翻译副本在本文档背面的 CD 上提供。该 CD 中还可能包含其他产品文档。使用或维修本产品之前请务必阅读所有说明。

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Le CD au dos de ce document contient des traductions de celui-ci dans différentes langues. Ce CD peut également contenir de la documentation supplémentaire sur le produit. Lisez toutes les instructions avant d'utiliser ou d'entretenir ce produit.

Übersetzte Versionen dieses Dokuments werden auf der CD auf dem Vorsatzblatt dieses Dokuments bereitgestellt. Die CD kann auch zusätzliche Produktdokumentation enthalten. Bitte lesen Sie diese Anweisungen vor der Verwendung dieses Produkts oder vor der Ausführung von Wartungsarbeiten am Produkt.

Le copie tradotte di questo documento sono fornite sul CD, sul retro di questo documento. Il CD potrebbe anche contenere altra documentazione sul prodotto. Si prega di leggere tutte le istruzioni prima di utilizzare questo prodotto o sottoporlo a manutenzione.

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이 문서의 번역된 사본이 이 문서 후면의 CD 에서 제공됩니다 . 이 CD 에는 추가 제품 설명서가 포함되어 있을 수 있습니다 . 이 제품을 사용하거나 수리하기 전에 모든 지침을 확인하십시오 .

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Safety Information

- Read this information thoroughly before installing or operating a speaker.
- Read these instructions.
- Keep these instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other devices (including amplifiers) that produce heat.
- Do not use this apparatus near water.
- Do not install the speaker near water where the electrical components can be exposed to moisture. Do not place objects containing liquids, such as vases, on the product.
- Clean only with a dry cloth.
- Do not overpower or underpower speaker systems.
- Use only in accordance with manufacturer's specifications and installation guidelines.
- Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in their susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. These are the permissible noise level exposures specified by the United States Occupational Safety and Health Administration (OSHA):

Duration (Consecutive)	Sound Level (dbA), Slow Responses
8 hrs	90
6 hrs	92
4 hrs	95
3 hrs	97
2 hrs	100
1.5 hrs	102
1 hr	105
30 min	110
≤15 min	115

- According to the OSHA, any exposure in excess of the above permissible limits could result in some hearing loss. Earplugs or protectors to the ear canals or over the ears must be worn when operating this amplification system to prevent permanent hearing loss, if exposure is in excess of the described limits.

- Speakers and speakers mounted to brackets must be affixed to a suitable structure following all local safety standards and regulations.
- Always install all legally required additional redundant safety straps or cables.
- Install the minimum number of rigging wires (refer to *Installation* for more details) that are required to suspend the speaker. Observe load ratings and all applicable local safety codes.
- Only use attachments or accessories specified by Christie.
- To reduce the risk of system damage, turn off the power amplifier and then disconnect the speaker wire before performing a repair or maintenance.
- All servicing must be completed by qualified service personnel. Servicing is required when the apparatus has been damaged in any way. For example, liquid has been spilled or objects have fallen onto the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Changes or modifications to the product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Technical support

Contact your dealer or technical support for questions relating to unclear information, malfunctions, or product repairs.

Americas

Email: *tech-support@christiedigital.com*

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- Chile: 519-744-8005

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Introduction

This user manual provides surround speaker installation, troubleshooting, and specification information.

Overview

The LS3S line source surround speaker is designed for auditoriums with up to approximately 350 seats as part of a horizontal array. It may also be paired with S115 or S215 subwoofers and bi-amped to create a surround system with bass management.

It may also be used for a range of other applications, where vertical coverage and maximum throw distance are appropriate.

The speaker contains an internal passive crossover, allowing it to operate with a single channel amplifier. Multiple hardware attachment points on the speaker allow for multiple installation options.

What's in the box?

This table lists the components that are shipped with the LS3S.

Quantity	Description	Part number
1	Christie LS3S line source surround speaker or Christie LS3S line source surround speaker with grill	145-107109-XX or 145-129103-XX

Installation

⚠WARNING

- Before installation, inspect all components for cracks, deformations, corrosion, and missing or damaged parts that could reduce their installation strength.
- Speakers must be affixed to a suitable structure following all local safety standards and regulations.
- Only use attachments or accessories specified by the manufacturer.

Failure to comply could result in death or serious injury.

NOTICE

- Allow speakers exposed to extremely low temperatures to warm for a minimum of one hour before playing them at typical application levels. Failure to comply may result in equipment or property damage.
- Speaker wire affects sound quality. Make sure the speaker wire quality and gauge are appropriate for your application.

Complete the following procedures to install the speaker.

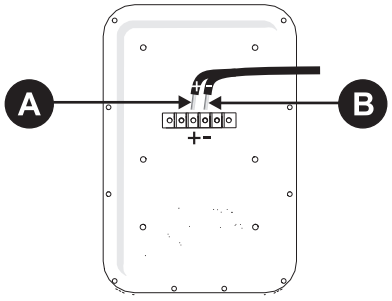
Connect the speaker wire

NOTICE

The amplifier must be turned off and unplugged before you start this procedure.

1. Install the speaker according to the mounting instructions provided in this manual.
2. Connect the speaker wire to the positive (A) and negative (B) terminals on the back of the speaker.

   Use a #8 spade lug (part number: 145-159106-XX) if you are creating crimped spade lug terminations.



A	Positive (+) connection
B	Negative (-) connection

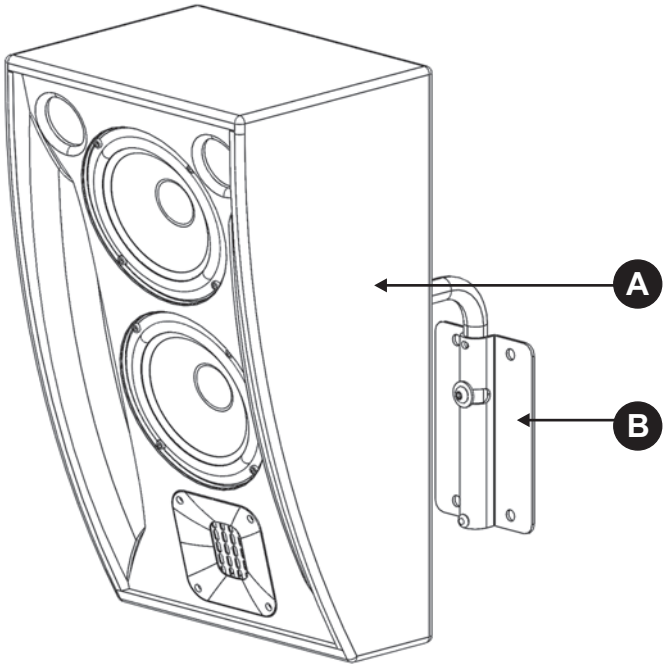
3. Connect the negative and positive speaker wires from the speaker to the corresponding terminals on the amplifier.
4. Turn on the amplifier and verify that the speaker is receiving power.

Wall mount the LS3S

1. Remove the four pre-installed M8 button head screws on the back of the speaker.
2. Attach one of the following brackets to the back of the speaker using the four M8 button head screws.

Description	Part number
Christie BKW-SUR fixed wall mount bracket	145-128102-XX
Wall mount bracket (MM-017)	111-694201-XX
Wall mount bracket (MM-024)	111-681207-XX
Wall mount bracket (MM-060)	111-682208-XX

3. Mount the speaker to the wall using the manufacturer documentation provided with the bracket or the *Christie Vive Audio BKW-SUR User Manual*.



A	LS3S speaker
B	Wall mount bracket

Troubleshooting

⚠CAUTION Do not service the speaker. All servicing must be completed by qualified service personnel. Failure to comply could result in minor or moderate injury.

Problem	Resolution
The speaker does not function	• Verify that the speaker is receiving power from the amplifier. • Verify that the circuit breaker for the main circuit to the amplifier is open. • Reset the circuit breaker. If the AC mains breaker continues to open, check the voltage and amperage of the circuit. • Verify that the negative and positive speaker wires from the speaker are correctly connected to the terminals on the amplifier.
The speaker sound is degraded	• Visually inspect the speaker for deterioration or holes. • Reduce the output level of the source. • Verify that the negative and positive speaker wires from the speaker are correctly connected to the terminals on the amplifier. • Verify that there are no missing screws. Replace all screws that you removed during installation. • Have an authorized dealer complete an audio test (for example, pink noise, frequency sweeps, and content and program material).
There is speaker noise or hiss	• Mute channels, one at a time, to isolate the problem. • Verify that the cables are in good working condition. • Reroute audio cables away from AC power and lighting cables. • Verify correct gain structuring of B Chain and input and output levels of source devices and amplifiers. • Check the polarity.

Specifications

Audio

Specification	Description
System type	Line source, 2.5-way, passive, vented enclosure.
Driver components	One 3.5 in. Kapton ribbon driver with Neodymium magnets and two 6.5 in. (mid-bass + bass) paper/Kevlar composite drivers.
Crossover	Linear phase, 2 way, passive at 2.5 kHz 12 dB/octave, low pass at 800 Hz for bass driver, 6 dB/octave.
Frequency response[a]	70 Hz - 20 kHz @ -6 dB
Maximum sound pressure level (SPL)[b]	110 dB (AES) continuous, 122 dB, peak
System coverage	120° horizontal dispersion, 60° vertical dispersion
Sensitivity[a], 1 W/1 m	89 dB
Recommended amplifier power	125 W - 250 W (FTC) at 4 Ohms / Christie CDA3 or Christie CDA5 (depending on application)
Rated impedance	4 Ohms

[a]LS3S was measured in 2pi conditions. Such conditions most closely match typical indoor wall mount applications. Averaged in the 500 Hz-10 kHz range, -6 dB.

[b]AES, 6 dB crest factor at 1 m. Maximum continuous SPL is calculated based on sensitivity and AES power handling. Short-term IEC 268-5 pink noise, 12 dB crest factor. The crest factor was specifically increased to reflect real life parameters of digital cinema soundtracks. Peak SPL is calculated based on short-term power.

Connections

Specification	Description
Inputs	Screw terminal barrier strip

Power

Specification	Description
Power handling[b]	125-250 W (AES), 250 W (IEC) short-term (12 dB crest factor)

Physical

Specification	Description
Enclosure	Vented box alignment 18mm marine plywood Heavily damped and braced
Dimensions (H x W x D)	50 cm x 28 cm x 23 cm (19.7 in.) x (11 in.) x (9 in.)
Weight (net)	5.8 kg (12.8 lb)

Parts

Specification	Part Number
6.5 in. cones	003-120888-XX or 003-120889-XX
TWTR & Face Plate 3.5 in. Kapton	003-121026-XX

Accessories

Specification	Part Number
Christie BKW-SUR fixed wall mount bracket	145-128102-XX
Wall mount bracket (MM-017)	111-694201-XX
Wall mount bracket (MM-024)	111-681207-XX
Wall mount bracket (MM-060)	111-682208-XX
SpeakON Connector (for amplifier output to speaker)	145-158105-XX
#8 Spade Lug (for speaker input from amplifier)	145-159106-XX

000-105149-01
ASSY TECH DOCS VIVE LS3S

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